

FIG. 1A-1
FIG. 1A-2

FIG. 1A

GAATTCCCCAACAGAGCCCAAGCTCTCCATCTAGTGGACAGGGAAGCTAGCAGCAACC	39 (UPPER: SEQ ID NO.: 1)
	19 (LOWER: SEQ ID NO.: 4)
TTCCCTTCAC TACAAACTTCATTGCTTGGCCCAAAAGAGAGTTAATTC AATGTAGACAT	119
	39
CTATGTAGGCAATTAAACCTATTGATGTATAAAACAGTTTGCAATTCATGGAGGGCAAC	179
	59
TAAATACATTCTAGGACTTTATAAAGATCACTTTTATTATGTCACAGGGTGGAAACAAG	239
	79
ATGGATTATCAAGTGTCAAGTCCAAATCTAUGACATCAATTAATTATACATCGGAGCCCTGC	299
M D Y Q V S S P I Y D I N Y Y T S E P C	99

1/20

FIG. 1A-1

CAAAAATCAATGTGAAGCAATCGCAGCCCGCCTCCTGCCCTCCTACTACTGGTG 359
 Q K I N V K Q I A A R L L P P L Y S L V 119
 TTCATCTTTGGTTTGGGCAACATGCTGGTCATCCTCATCTGATAAACTGCAAAAGG 419
 F I F G F V G N M L V I L I L I N C K R 139
 CTGAAGAGCATGACTGACATCTACCTGCTCAACCTGGCCATCTCTGACCTGTTTCCTT 479
 L K S M T D I Y L L N L A I S D L F F L 159
 CTTACTGTCCCTTCTGGGCTCACTATGCTGCCGCCAGTGGGACITTTGGAATACAATG 539
 L T V P F W A H Y A A A Q W D F G N T M 179
 TGTCAACTCTTGACAGGGCTCTATTTTATAGGCTTCTTCTCTGGAATCTTCTCATCATC 599
 C Q L L T G L Y F I G F F S G I F F I I 199
 CTCCTGACAATCGATAGGTACCTGGCTGCTCGTCCATGCTGTGTTTAAAGCCAGG 659
 L L T I D R Y L A V V H A V F A L K A R 219
 ACGGTCACTTTGGGTGGTGACAAGTGTGATCATTGGGTGGGTGCTGTGTTGCGTCT 719
 T V T F G V V T S V I T W V V A V F A S 239
 CTCCCAGGAATCATCTTTACCAGATCTCAAAAGAGGTCTTTCATTACACCTGCAGCTCT 779
 L P G I I F T R S Q K E G L H Y T C S S 259

CATTTCCATACA
 H F P Y

FIG. 1A-2

FIG. 1B-1
FIG. 1B-2

FIG. 1B

GAATTCCCCCAACAGAGCCAAGCTCTCCATCTAGTGGACAGGGAAGCTAGCAGCAAACC	59 (UPPER: SEQ ID NO.: 2)
	19 (LOWER: SEQ ID NO.: 5)
TTCCCTTCAC TACAAAAC TTCA TTGCTTG GCCAAAAGAGAGTTAATTC AATGTAGACAT	119
	39
CTATGTAGGCAATTAAAAACCTATTGATGTATAAAACAGTTTGCATTTCATGGAGGGCAAC	179
	59
TAAATACATTCTAGGACCTTATAAAAGATCACCTTTTATTATTATGCACAGGGTGGAACAAG	239
	79
ATGGATTATCAAGTGTCAAGTCCAATCTATGACATCAATTATTATATACATCGGAGCCCTGC	299
M D Y Q V S S P I Y D I N Y Y T S E P C	99

FIG. 1B-1

CAAAAATCAATGTGAAGCAAATCGCAGCCCGCCTCCTGCCTCCGCTCTACTCACTGGTG 359
 Q K I N V K Q I A A R L L P P L Y S L V 119
 TTCACTCTTTGGTTTGTGGGCAACATGCTGGTCATCCTCATCCTGATAAACTGCAAAAGG 419
 F I F G F V G N M L V I L I L I N C K R 139
 CTGAAGAGCATGACTGACATCTACTCTGCTCAACCTGGCCATCTCTGACCTGTTTTCCTT 479
 L K S M T D I Y L L N L A I S D L F F L 159
 CTTACTGTCCCTTCTGGGCTCACTATGCTGCGGCCAGTGGGACTTTGGAAATACAATG 539
 L T V P F W A H Y A A A Q W D F G N T M 179
 TGTCAACTCTTGACAGGGCTCTATTTTATAGGCTTCTCTCTGGAATCTTCTTTCATCATC 599
 C Q L L T G L Y F I G F F S G I F I I 199
 CTCCTGACAAATCGATAGGTACCTGGCTGTGTCCTCATGCTGTGTTTGTCTTAAAGCCAGG 659
 L L T I D R Y L A V V H A V F A L K A R 219
 ACGGTCACCTTTGGGGTGGTGACAAGTGTGATCACTTGGGTGGTGGCTGTGTTTGGCTCT 719
 T V T F G V V T S V I T W V V A V F A S 239
 CTCCCAGGAATCATCTTTACCAGATCTCAAAAAGAAAGTCTTCAATTACACCTGCAGCTCT 779
 L P G I I F T R S Q K E G L H Y T C S S 259
 CATTTTCCATACAGTCAGTATCAATTTCTGGAAGAAATTTCCAGACATTTAAAGATAGTCATC 839
 H F P Y S Q Y Q F W K N F Q T L K I V I 279

FIG. 1B-2

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TTGGGGCTGGTCTCTGCCGCTGCTTGTGTCATGGTCACTGCTACCTCGGGAATCCTAAAAACT 899
L G L V L P L L V M V I C Y S G I L K T 299
CTGCTTCGGTGTGCGAAATGAGAAGAAGAGGCACAGGGCTGTGAGGCTTATCTTCACCATC 959
L L R C R N E K K R H R A V R L I F T I 319
ATGATTGTTTATTTTCTCTTCTGGGCTCCCTACAACATTGTCTCTTCTCTGAAACACCTTC 1019
M I V Y Y F L F W A P Y N I V L L L N T F 339
CAGGAATCTTTGGCCTGAATAATTGCAGTAGCTCTAACAAGTTGGACCAAGCTATGCAG 1079
Q E F F G L N N C S S S N R L D Q A M Q 359
GTGACAGAGACTCTTTGGGATGACGCACCTGTGTCATCAACCCCATCATCTATGCCCTTGTG 1139
V T E T L G M T H C C I N P I I Y A F V 379
GGGAGAGAAGTTCAGAAACTACCTCTTAGTCTCTTCTTCCAAAGCACATTGCCAAACGCTTC 1199
G E K F R N Y L L V F F Q K H I A K R F 399
TGCAAAATGCTGTTCTATTTTCCAGCAAGAGGCTCCCGAGCGAGCAAGCTCAGTTTACACC 1259
C K C C S I F Q Q E A P E R A S S V Y T 419
CGATCCACTGGGGAGCAGGAAATATCTGTGGGCTTGTGACACGGACTCAAGTGGGCTGGT 1319
R S T G E Q E I S V G L * 439
GACCCAGTCAGAGTTGTGCACATGGGCTTAGTTTTCATACACAGCCTGGGCTGGGGTNGG 1379
459
TTGGNNGAGGTCTTTTTTAAAGGAAGTTACTGTATTAGAGGGTCTAAGATTTCATCCATT 1439
479
TATTTGGCATCTGTTTAAAGTAGATTAGATCCGAATTC

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FIG. 1B-3

FIG. 1D-1
FIG. 1D-2

FIG. 1D

GAATTCCCCAACAGAGCCCAAGCTCTCCATCTAGTGGACAGGGAAGCTAGCAGCAACC	59 (UPPER: SEQ ID NO. 3) 19 (LOWER: SEQ ID NO. 6)
TTCCCTTCACTACAAAACCTTCATTGCTTGGCCAAAAGAGAGTTAATTCAATGTAGACAT	119 39
CTATGTAGGCAATTAAAAACCTATTGATGTATAAACAGTTTGCAATTCATGGAGGGCAAC	179 59
TAAATACATTCTAGGACTTTATAAAAGATCACTTTTATTATGCACAGGGTGGAACAAG	239 79
ATGGATTATCAAGTGTCAAGTCCAATCTATGACATCAATATTATATACATCGGAGCCCTGC	299 99
M D Y Q V S S P I Y D I N Y Y T S E P C	

FIG. 1D-1

CAAAAATCAATGTGAAGCAATCGAGCCCGCCTCTGCTCCGCTCTACTCACTGTG 359
 Q K I N V K Q I A A R L L P P L Y S L V 119
 TTCATCTTTGGTTTGTGGCAACATGCTGGTCATCCTCATCTGATAAACTGCAAAAGG 419
 F I F G F V G N M L V I L I L I N C K R 139
 CTGAAGAGCATGACTGACATCTACCTGCTCAACCTGGCCATCTCTGACCTGTTTTCCT 479
 L K S M T D I Y L L N L A I S D L F F L 159
 CTTACTGTCCCTTCTGGGCTCACTATGCTGCCGCCAGTGGGACTTTGGAATACAATG 539
 L T V P F W A H Y A A A Q W D F G N T M 179
 TGTCAACTCTTGACAGGGCTCTATTTTATAGGCTTCTTCTGGAATCTTCTTCATCATC 599
 C Q L L T G L Y F I G F F S G I F F I I 199
 CTCCTGACAAATCGATAGGTACCTGGCTGCTGCTCCATGCTGTGTTTGCTTTAAAAGCCAGG 659
 L L T I D R Y L A V V H A V F A L K A R 219
 ACGGTCACTTTGGGGTGGTGACAAGTGTGATCACTTGGGTGGTGGTGTGTTGCGTCT 719
 T V T F G V V T S V I T W V V A V F A S 239
 CTCCCAGGAATCATCTTTACCAGATCTCAAAAGAAGGTCTTCAATTACACCTGCAGCTCT 779
 L P G I I F T R S Q K E G L H Y T C S S 259
 CATTTTCCATACATTAAAGATAGTCATCTTGGGGTGGTCCCTGCCGCTGCTTGTGATGTT 839
 H F P Y I K D S H L G A G P A A A C H G 279

FIG. 1D-2

CATCTGCTACTCGGGAATCCTAATAAACTCTGCTTCGGTGTGAAATGAGAAGAGGCA	899
H L L L G N P K N S A S V S K *	299
CAGGGCTGTGAGGCTTATCTTCACCATCATGATTGTTTATTTCTCTCTCGGGCTCCCTA	959
	319
CAACATGTCTCTTCTCTGAACACCTTCCAGGAATTCTTTGGCCTGAATAATTGCAGTAG	1019
	339
CTCTAACAGGTTGGACCAAGCTATGCAGGTGACAGAGACTCTTGGGATGACGCACCTGCTG	1079
	359
CATCAACCCCATCATCTATGCCTTTGTTCGGGGAGAAGTTCAGAACTACCTCTTATGTCCTT	1139
	379
CTTCCAAAAGCACATTGGCCAAACGCTTCTGCAAATGCTGTCTATTCTTCCAGCAAGAGGC	1199
	399
TCCCGAGCGAGCAAGCTCAGTTTACACCCGATCCACTGGGGAGCAGGAAATATCTGTGGG	1259
	419
CTTGTGACACGGACTCAAGTGGGCTGGTGACCCAGTCAGAGTTGTGCACATGGCTTAGTT	1319
	439
TTCATACACAGCCTGGGCTGGGGTNGGTTGNNAGGCTTTTTTAAAGGAAGTTACT	1379
	459
GTTATAGAGGGTCTAAGATTCTATCCATTTATTTTGGCATCTGTTTAAAGTAGATTAGATCC	1439
	479
GAATTC	

FIG. 1D-3

FIG. 2A	FIG. 2B
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FIG. 2B

FIG. 2

	I	II
CCR5	1 MDYQVSSPRDINNYTSEPCQKHNKQIAARLLPPLYSLSVFIFFGVGNMMLILINCKRLKSMSTDYLLNLAISDILFLIT	83
hcc-R2b	6 MLSTSRSRFIRNTNSESGETTFDDYDYGAPCHKFDVKQIGAGLLPPLYSLSVFIFFGVGNMMLVILINCKRLKCLTDYLLNLAISDILLFLIT	95
hcc-R3	MTTSLDITVETFGTTSYYDDVGLLCEKADTRALMAQFVPPPLYSLVFTVGLIGNVAVVMMLIKYKRLIRIMTNLYLLNLAISDILLFLAT	87
hcc-R1	METPNTTEDYDTTTEFDYGDATPCQKNNERAFGAGLLPPLYSLSVFIFFGVGNLVMVIVQYKRLKNMTSIIYLLNLAISDILLFLAT	87
hcc-R4	MNPFDIADTLDSEIYSNNLYLESIPKPKQTEGIGRAFGEFLPPLYSLSVFIFFGLIGNSVVMVIVIFPKYKRLIRISMTDGYLLNLAISDILLFVES	92

	III	IV
CCR5	V P F W A H Y A A A Q W D F G N M C Q L L T G L Y F I G F F S G I F F I L L T I D R Y L A I W H A V F A L K A R T V T F G V V T S V I T W W A V F A S L P G I I F T R S Q K E G L H 177	
hcc-R2b	L P L W A H S A A N D W F G N A M C K L F T G L Y H I G F G G I F F I L L T I D R Y L A I W H A V F A L K A R T V T F G V V T S V I T W L W A V F A S V P G I I F T K O K E D S V 189	
hcc-R3	L P F W I Y V R G H N W F G H G M C M L I S E F Y H T S L Y S E F F I I L L T I D R Y L A I W H A V F A I R A R T V T F G V I T S V T W G L A V I A L P E F I I Y E T E L F E E 182	
hcc-R1	L P F W I D Y K L K D W F G D A M C K I L S E F Y Y T C L Y S E F F I I L L T I D R Y L A I W H A V F A I R A R T V T F G V I T S I T I A L L A L I A S M P G L F F S K T Q W E F T H 182	
hcc-R4	L P F W G C Y A A D Q W F G H G I O R M I S N M Y L V E F Y S G I F F V M L M S I D R Y L A I W H A V F S I R A R L I T Y G V I T S L A T W S V A V F A S L P G F F T S C T Y E R N H 186	

FIG. 2A

VI

V

CCR5 YTCSEFFPYSOYQFWKNEOTLKIVILGLVPLVIMVICYSGLKTLRCRNEKKRRRAVRLIFTIMIVYFLFWPYNIVLLNLTQEFFGLNNC 272
 hcc-R2b VVQGPYFPRG...WNNFTIMRNILGLVPLVIMVICYSGLKTLRCRNEKKRRRAVRIFTIMIVYFLFWPYNIVLLNLTQEFFGLSNC 280
 hcc-R3 TLCSALYFEDTVYSWRHHTLRMTIFQLVPLLVNAICVYTGHTKTLRCPSKKKLYKARLLIFVIMAVFFIFWTPYNVAILLSSVQSILFGNDQ 276
 hcc-R1 HTCSHFFPHESLREWKLPQALKLNLFGLVPLVIMVICVYTGHTKTLRCRNEKKSKAVRLIFVIMHFFELFWPYNLTILISVFQDELFTHEC 276
 hcc-R4 TYCKTKYSINST.TWKVLSLLEINILGLVPLVIMVICYSMTITLQCRNEKKNKAVKMFPAVVVFLGFWTPYNIVLFIETLVLELVQDC 279

VII

CCR5 SSSNRLDQAMQVTETLGMTHCCINPIIYAFVGEKFRNLLVFFQKHIAGR.FCKCCSIFQOEAFERASSVYTRSTGEOBISVGL 352
 hcc-R2b ESTSQLDQAQVETETLGMTHCCINPIIYAFVGEKFRNLLVFFQKHIAGR.FCKQCPVEYRETVDGVSTNIPSTGEOEWSAGL 360
 hcc-R3 ERSKHLDLVMIVTEVIAYSHCCNPNIIYAFVGEKFRKVIHRHRLLMH.IGRYIPFPSEKERTSSV.SPSTAFPELISIVF 355
 hcc-R1 EQSRHLDLVMIVTEVIAYTHCCNPNIIYAFVGEKFRKVIHRRLVH.LVMWLPFLSVDRUERVSS.T.SPSTGEHELISAGF 355
 hcc-R4 TFERYLDVMAIQAETETIAFVHCCINPIIYFELGKFRKVIHQLFVTCRGLFVLCYQGLLIYSADTPSSSYTQSTMDHDLHAL 360

FIG. 2B

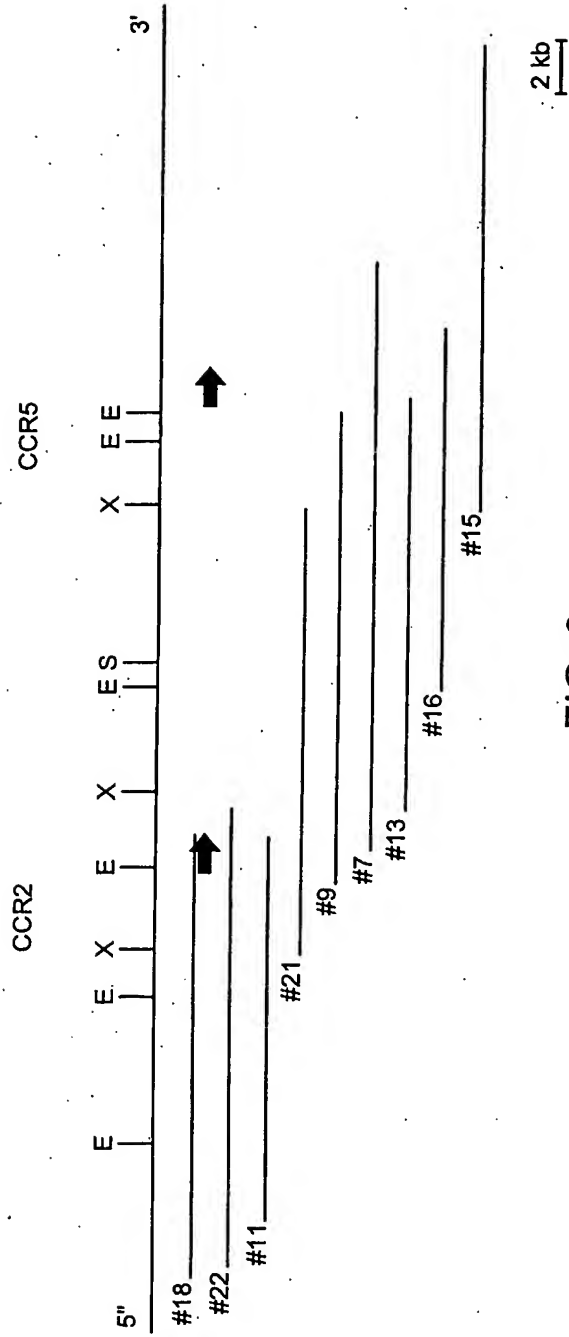


FIG. 3

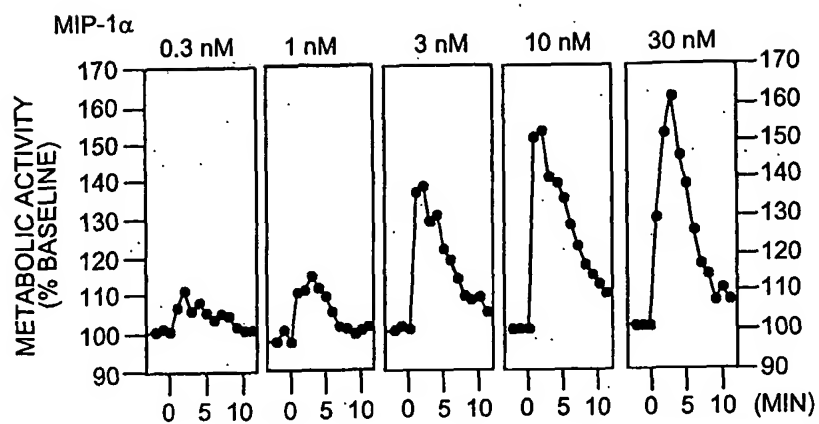


FIG. 4A

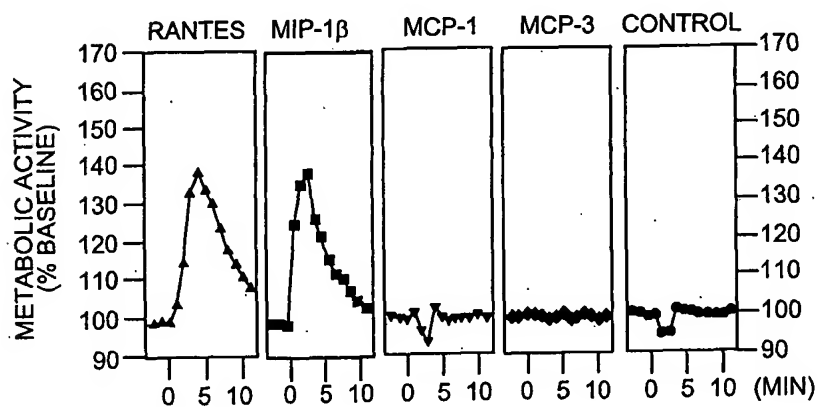


FIG. 4B

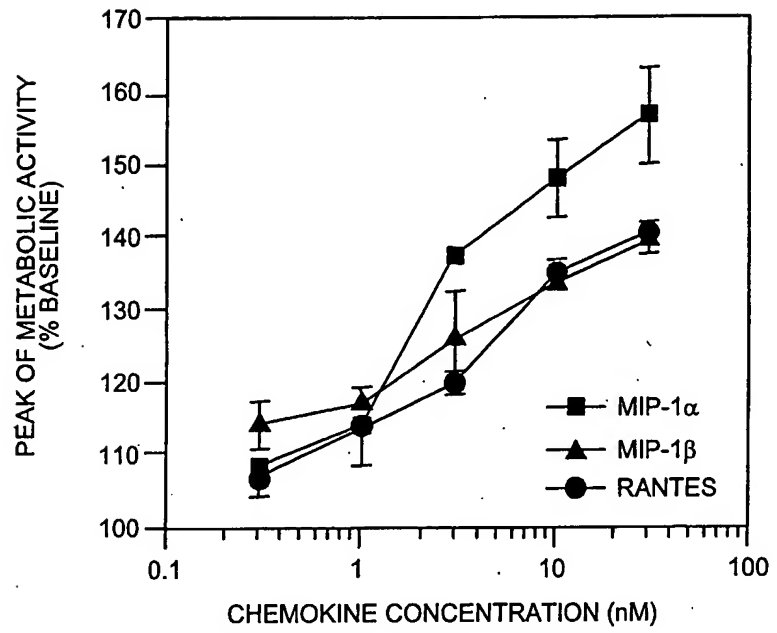


FIG. 4C

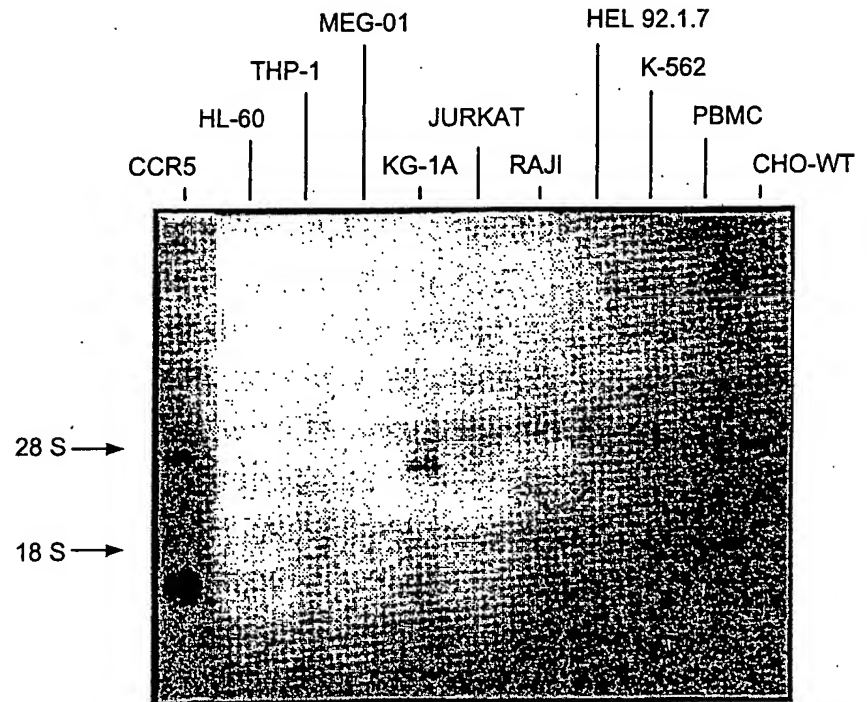
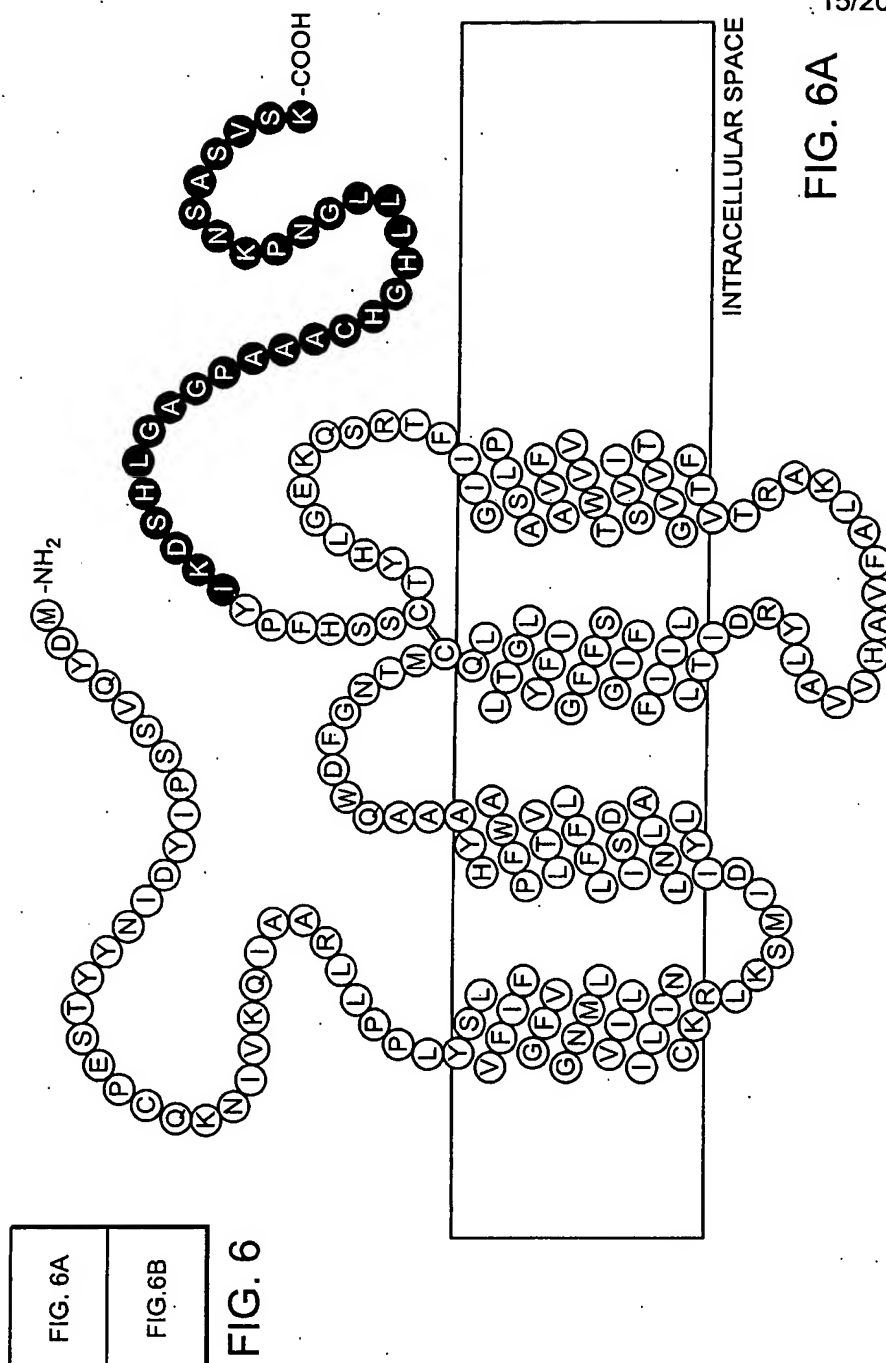


FIG. 5

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FIG. 6A



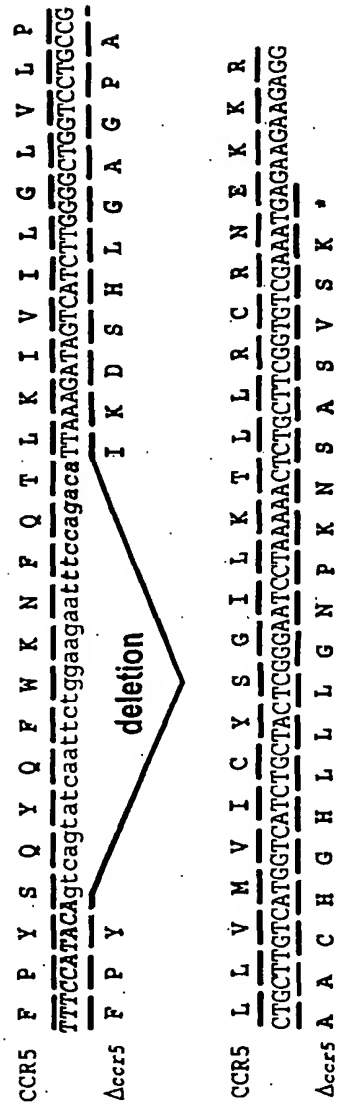


FIG. 6B

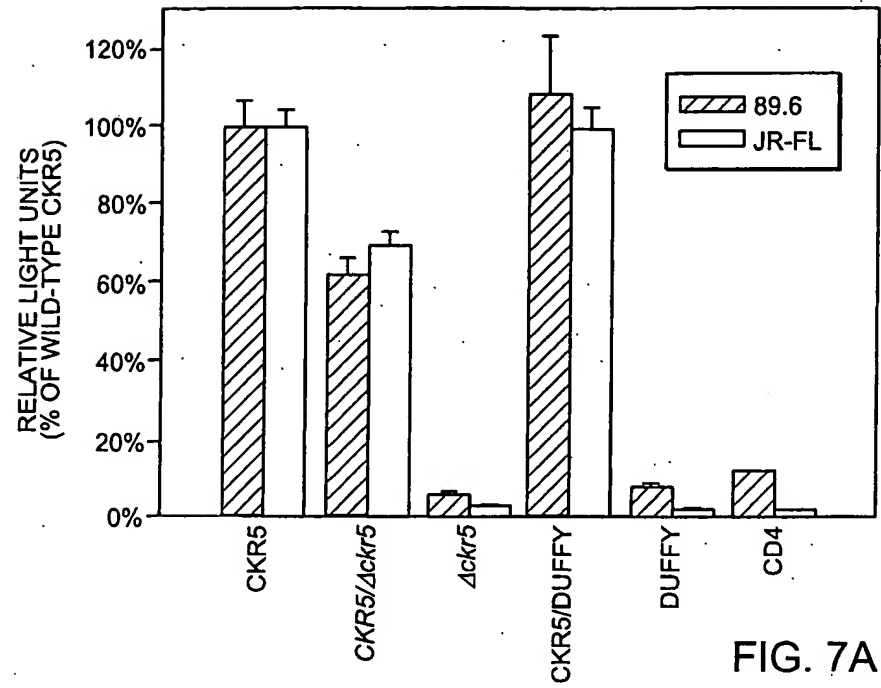


FIG. 7A

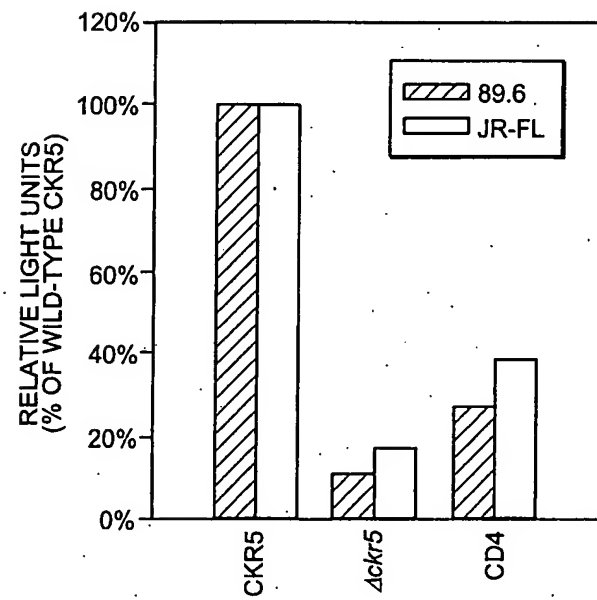


FIG. 7B

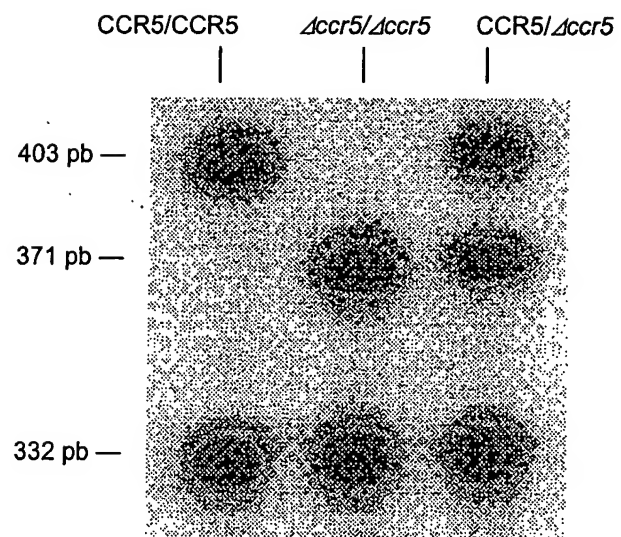


FIG. 8

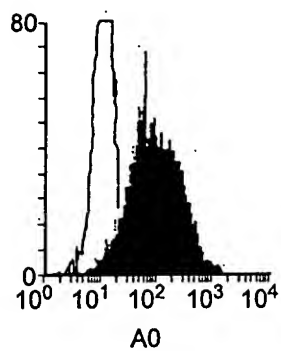


FIG. 9A

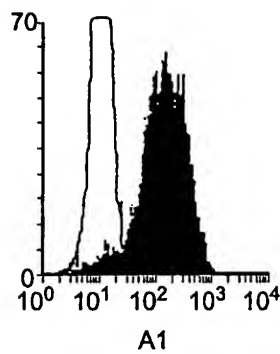


FIG. 9B

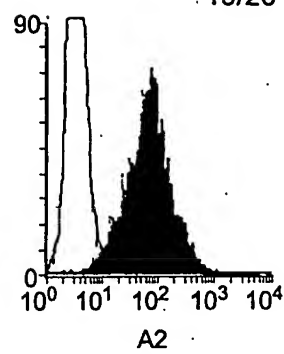


FIG. 9C

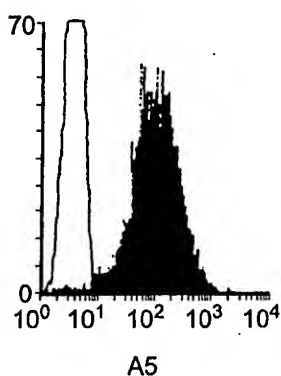


FIG. 9D

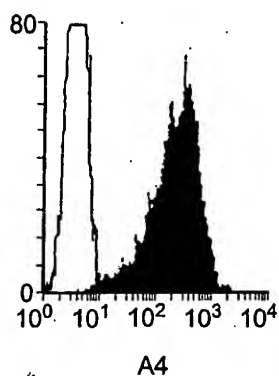


FIG. 9E

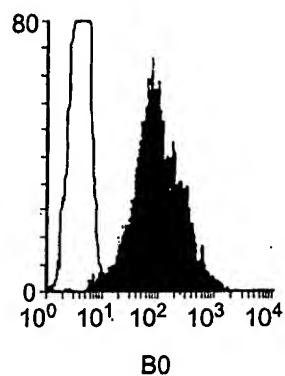


FIG. 9F

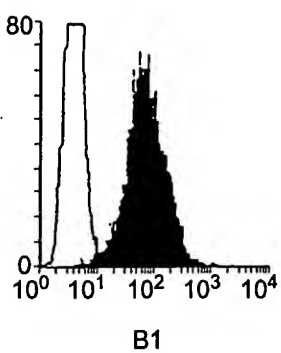


FIG. 9G

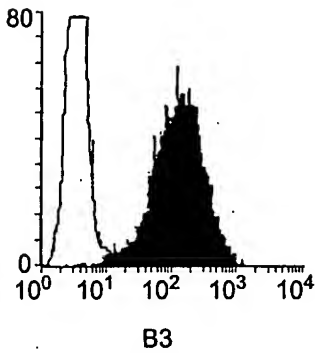


FIG. 9H

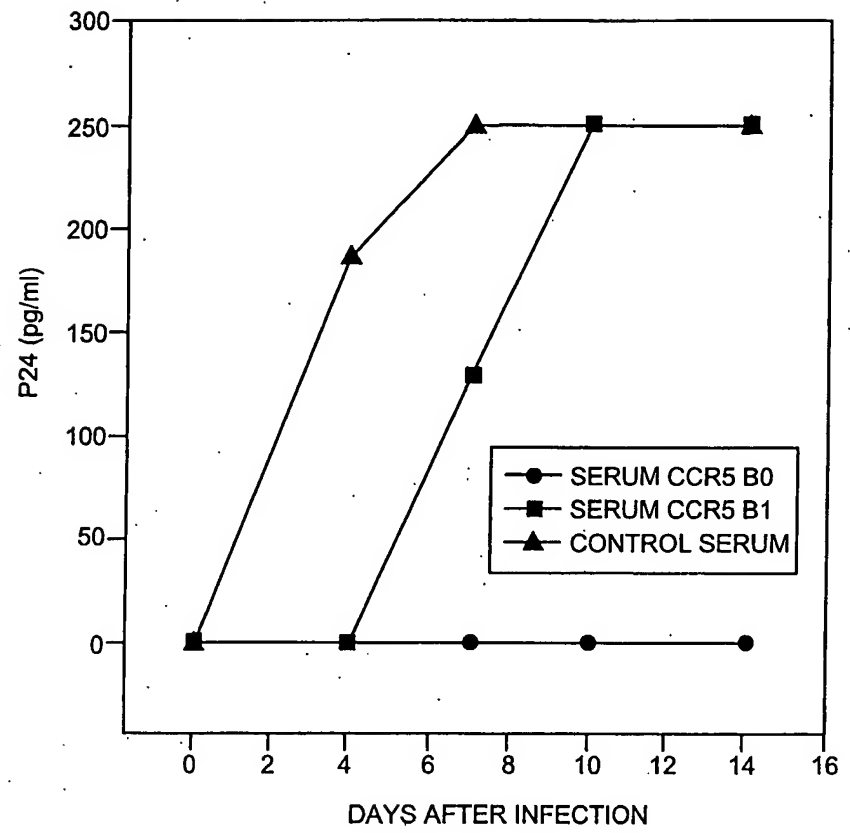


FIG. 10